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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,460	12/02/2003	Stephen G. Abel	H0005346	5859

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HONEYWELL INTERNATIONAL INC.  
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MORRISTOWN, NJ 07962-2245

EXAMINER
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CLEMENT, MICHELLE RENEE

ART UNIT	PAPER NUMBER
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3641

MAIL DATE	DELIVERY MODE
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05/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/726,460	ABEL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michelle (Shelley) Clement	3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2007.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 32-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Response to Arguments***

1. Applicant's arguments filed 3/22/07 have been fully considered but they are not persuasive. With regards to applicant's contention regarding the 35 U.S.C. § 112, First Paragraph rejection, it is noted that the specification does not enable igniting the solid propellant grain from **one end** in such a way that the individual solid propellant grains are consumed from the **two ends** in a manner that is *substantially symmetrical* with respect to a line. The claim language "at least one of the ends" encompasses the embodiment of only one end, the embodiment of igniting the solid propellant grain from only one end in such a way that the individual solid propellant grains are consumed from the two ends in a manner that is substantially symmetrical with respect to a line is not enabled by the specification. Applicant's arguments do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections. Guay discloses igniting the individual solid propellant grains from at least one of the ends; the grains would be consumed from the end in a manner that is substantially symmetrical with respect to a line. Applicant's contention that the device of Guay would also burn from the center of the grain assembly is irrelevant in that it would also still burn from "the end in a manner that is substantially symmetrical with respect to a line". The device of Dapper ignites the grain along the entire grain and thus it would burn simultaneously from all ends.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 32-38 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for selectively igniting the solid propellant grains from two ends so that the solid propellant grains are consumed from the two ends in a manner that is substantially symmetrical with respect to a line, does not reasonably provide enablement for igniting the solid propellant grain from **one end** (which is encompassed by the terms “from at least one end”) so that the solid propellant grains are consumed from the **two ends** in a manner that is substantially symmetrical with respect to a line. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. It is not clear to the examiner how the solid propellant grain can be selectively ignited from only **one end** (which is encompassed by the phrase “from at least one end”) in such a ways that the grains are consumed from the **two ends** in a manner that is substantially symmetrical with respect to a line.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

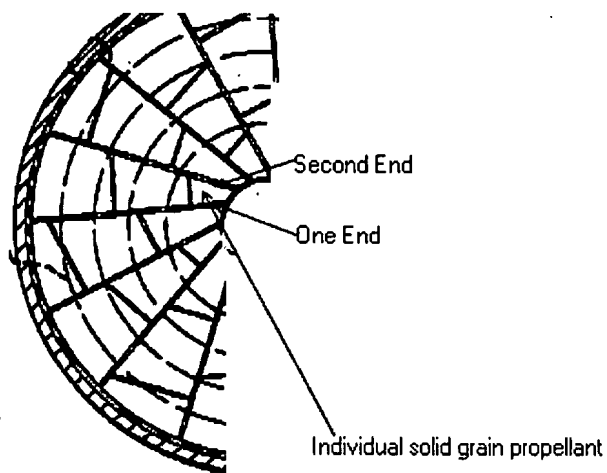
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 32-35 and 38 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Guay (US Patent # 3,010,400). Guay discloses a device and method of producing a gas comprising forming a single grain assembly from a plurality of individual solid propellant grains,

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the plurality of individual solid propellant grains each having two ends and arranged so that at least two of the individual solid propellant grains are shaped and oriented in such a way that they are symmetrical with respect to each other about a line and selectively igniting the symmetrical individual solid propellant grains in such a way that the individual solid propellant grains are consumed in a manner that is *substantially* symmetrical with respect to the line. Selectively igniting the symmetrical individual solid propellant grains in the single grain assembly from at least one of the ends (Figure 1 (reference 26)), the individual solid propellant grains are consumed from an end of each of the solid grains in a manner that is substantially symmetrical with respect to a line. Wherein the individual solid propellant grains are arranged in pairs and the individual solid propellant grains in each pair are substantially symmetrical with respect to each other. Wherein the step of selectively igniting includes the step of igniting the individual solid propellant grains only in pairs. Wherein the at least two individual solid propellant grains are selectively ignited simultaneously. Wherein the at least two individual solid propellant grains are arranged so that they extend from respective first end portions to respective second end portions and the at least two individual solid propellant grains are arranged so as to provide a channel between the first and second end portions of at least one individual solid propellant grain.



6. Claims 32, 36 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Dapper (US Patent # 3,434,426). Dapper discloses a device and method of producing a gas comprising forming a single grain assembly from a plurality of individual solid propellant grains, the plurality of individual solid propellant grains each having two ends and arranged so that at least two of the individual solid propellant grains are shaped and oriented in such a way that they are symmetrical with respect to each other about a line (a line perpendicular to axis 15) and selectively igniting the symmetrical individual solid propellant grains in such a way that the individual solid propellant grains are consumed in a manner that is *substantially* symmetrical with respect to the line. Wherein the step of igniting the at least two individual solid propellant grains simultaneously includes the step of igniting the at least two individual solid propellant grains simultaneously at two ends on each grain. Wherein a pair of the plurality of individual solid propellant grains can be arranged differently in at least one of size and shape from the at least two individual solid propellant grains and the at least two individual solid propellant grains

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are ignited before the pair of individual solid propellant grains. The grains may be ignited in any desired pattern depending on the requirements of the particular propellant compositions and configurations.

### *Conclusion*

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle (Shelley) Clement whose telephone number is 571.272.6884. The examiner can normally be reached on Monday thru Thursday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571.272.6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MICHELLE CLEMENT  
PRIMARY EXAMINER